



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Katsunobu Sumimura, et al.  
Serial No.: 10/782,008  
Filed: February 18, 2004  
For: METHOD OF REMOVING NITRATE  
NITROGEN FROM VEGETABLE JUICE  
Group Art Unit: 1761  
Examiner: S. N. Leff  
Attorney Docket: KGME P016

**DECLARATION UNDER 37 CFR § 1.131**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, Kiro Hayakawa, one of the joint inventors, declare as follows:

1. I am the Kiro Hayakawa mentioned as one of the joint inventors in the above-referenced patent application (hereinafter referred to as "the Application") and am familiar with the prosecution of the Application.

2. In view of the references cited and the argument presented by the patent examiner in rejecting the application, I have carried out the following additional experiment for the purpose of demonstrating the effect of concentrating a vegetable juice to Brix 10-60% and subjecting such a concentrated juice to electro dialysis.

**Additional Experiment**

By a method as described in page 4 at lines 26-31 of the specification, spinach juice not concentrated with Brix 3%, and its concentrates with Brix 10%, 20%, 40% and 60% were prepared. Similarly, by a method as described in page 5 at lines 1-5 of the specification, kale

juice not concentrated with Brix 5% and its concentrates with Brix 10%, 20%, 40% and 60% were prepared. These samples were each subjected to electrodialysis as described in page 5 at lines 7-14 of the specification, and the concentration of nitrate nitrogen was obtained as described in page 5 at lines 15-18 of the specification. The obtained nitrate nitrogen concentration was converted to the concentration when diluted with water until it returns to the original condition (Brix 3% for case of spinach juice and Brix 5% for cases of kale juice) and electrodialysis was carried out until the converted concentration became 50ppm. The time required for such electrodialysis was obtained and shown in Table A below.

Table A

	Before concentration	After concentration			
		Brix 10%	Brix 20%	Brix 40%	Brix 60%
Spinach juice (Brix 3%)	250 minutes	63 minutes	50 minutes	42 minutes	40 minutes
Kale juice (Brix 5%)	500 minutes	125 minutes	100 minutes	83 minutes	80 minutes

Table A clearly shows the effects of concentrating a vegetable juice to Brix 10-60% and subjecting such a concentrate to electrodialysis.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. I further declare that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both (under Section 1001 of Title 18 of the United States Code), and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Kiro Hayakawa  
Kiro Hayakawa  
February 21, 2007  
Date